REMARKS

This Amendment is being submitted with a Request for Continued Examination. Applicant thanks Examiner Kackar for his continued careful examination of the application. Applicant also appreciates the Examiner's cooperation to attempt to work out allowable claim language during telephone discussions on August 19, 2008 and November 12, 2008. Unfortunately, those discussions did not produce agreement.

Herein, claims 1, 11, 15 and 20 have been amended for clarity and to specify that the substrate is "*mechanically*" clamped in the carrier. In addition, new claims 31-33 have been added, depending respectively from claims 1, 11 and 20, to specify that the substrate is secured to the carrier via an adhesive. Pending claim 16 already presents a similar, albeit more specific, limitation to claim 15. New claim 34 depends from claim 1, and specifies that the chuck electrode is fixed in the processing station, while the frame (and clamped in carrier with attached substrate) is removable from the processing station to transport the substrate into and out of that station. No new matter has been entered. Basis for the amendments and new claims can be found in the application, including specification and drawings, as-filed.

Regarding new claims 31-33, during discussion with the Examiner regarding allowable claim language, the Examiner suggested specifying that the *substrate* is mechanically clamped to the carrier. However, such mechanical clamping of the *substrate* is expressly avoided in the present application. Instead, the *carrier* is clamped into the frame, and the substrate is secured to the carrier via other, non-clamping means so it can be conveniently transported into and out from a processing station containing a chuck electrode, where a process on the substrate can be carried out. During these discussions, the Examiner stated his belief that the substrate must be clamped in the carrier, otherwise it would not remain in place. However, this is not correct. As the specification discloses, e.g. at paragraphs [0016], [0045], [0047] and [0056] of the PGPub for this application (US PGPub 2006/0108231), the substrate is preferably secured to the carrier via an adhesive. Consistent with this disclosure, new claims 31-33 have been added depending from claims 1, 11 and 20, respectively, to specify the substrate in each of those claims is secured to the carrier "via an adhesive." Claim 16, dependent from claim 15, already specifies that the substrate is adhesively bonded to a surface of the carrier "by means of a vacuum-compatible and releasable adhesive."

Claim 16 was rejected in the last Office action under 35 USC § 102(b)/103(a) as being

anticipated or obvious over Tokisue et al. However, claim 16 was not addressed substantively in the rejection, and it is respectfully submitted that Tokisue does not disclose or suggest the combination of:

- a substrate that is adhesively secured to a carrier;

- the carrier being mechanically clamped (or clampable) in a frame;

- the carrier and a chuck electrode together forming an electrostatic chuck device to retain the substrate (which is adhesively bonded to the carrier) in position at a processing station where some process is to be carried out on the substrate;

- the substrate being repositionable in different processing stations to carry out different processes without repeatedly clamping and unclamping the substrate,

- and wherein the frame-carrier-substrate assembly is held in place at each station via electrostatic forces between a fixed chuck electrode and the repositionable carrier, which acts as the opposite electrode in a plate-type capacitor when in position and energized.

For the foregoing reasons, it is respectfully submitted that claims 16 and 31-33 are independently allowable over the cited art of record.

Regarding the independent claims 1, 11, 15 and 20, applicant respectfully submits these claims are allowable, irrespective of the present amendments thereto, for the reasons fully set forth in Response "E" filed electronically on September 11, 2008. For brevity, those reasons will not be repeated here, though applicant fully incorporates them herein by reference. To advance the prosecution hereof, applicant nonetheless here amends the independent claims to specify that the carrier is mechanically clamped in the frame. This feature of a carrier for a substrate being mechanically clamped in a separate frame is nowhere disclosed in the references of record. Specifically, neither Fig. 19 nor Fig. 20 of Tokisue previously relied upon by the Examiner discloses any "carrier" member being mechanically clamped into any "frame" member. Instead, the dielectric layer 2' is sintered to and formed integrally with the conductive ceramic 20, and the substrate 1 is placed on top of the dielectric layer 2', where it completes a capacitive circuit with the ceramic 20, to be magnetically attracted and retained to the ceramic 20 atop the dielectric layer 2'. There simply are no features in either Fig. 19 or 20 of Tokisue comparable to the three distinct features of a **(a)** substrate secured to **(b)** carrier, which is mechanically clamped into a **(c)** frame for removably positioning in a processing station.

In the recent Office action, the Examiner responded to applicant's remarks contained in

Response "E" as follows:

> Applicant argues that referring to Fig 19 there are no frame and no carrier.
>
> Regarding the meaning of the term "frame" it is noted that frame is a generic term and needs to be further defined to clarify its scope. The claims do that clarification. For the examination the term "frame" has been given the definition as contained in the claims. For example in claim 1 frame is a structure which clamps something (clamped-in-carrier- clamps both substrate and carrier) which may also be used for securing a substrate. As discussed above structure in Fig 20 of Tokisu et al meets that definition. Similarly all the required claimed features of this "frame" in claims 11, 15 and 20 are disclosed by Tokisue et al.

Office action, p. 4.

Respectfully, these statements do not fully respond to applicant's remarks contained in Response "E" previously filed. The Examiner states essentially that he is giving the term "frame" a broad interpretation for examination purposes. This is appropriate, but not to the extent that such construction contradicts the claimed structure. According to the claims, the carrier is secured (or securable) over substantially its entire surface to the carrier; the carrier is mechanically clamped in the frame; the frame is positionable adjacent the chuck electrode in a processing station so that when energized, the carrier (or conductive layer thereof) and chuck electrode behave as a plate-type capacitor and attract one another, thereby retaining the frame, clamped-in carrier and secured substrate in place during processing. Contrary to the Examiner's conclusory statements above, neither Fig. 19 nor Fig. 20 from Tokisue meets these structural features. Neither of those figures discloses a carrier that is clamped in a frame. The Examiner's arguments rely on the substrate itself to be clamped in the "frame," as the Examiner construes that term.

Depending on whether one is looking at Fig. 19 or 20 in Tokisue, the Examiner construes "frame" to refer to either the conductive ceramic 20 or the grounded bed 16. However, the term "frame" cannot refer to either of these two features, because:

> **(a)** the conductive ceramic 20 is comparable to the "chuck electrode" in the claims, not the "frame;"
>
> **(b)** in Tokisue, the ceramic 20 forms a capacitive circuit with the substrate (silicon wafer 1') directly, whereas in the claims the circuit is formed with the carrier or a conductive layer of the carrier (the carrier and the substrate in the claims are <u>not the same element</u> – this is significant, because the <u>carrier</u> is

mechanically clamped to the frame and the substrate is not); and

(c) both the conductive ceramic 20 and grounded bed 16 in Figs 19 and 20 of Tokisue remain in the processing station, with only the wafer 1' (*cf.* "substrate" in the claims) being removable, whereas in the claims the frame itself is removable from the processing station.

For at least these reasons, the term "frame" cannot properly be construed to refer to either the conductive ceramic 20 or the grounded bed 16 in Tokisue's figures. These figures are described in more detail below.

Fig. 19 of Tokisue shows a conductive ceramic 20, which functions as an electrode, and a dielectric film 2' "integrally joined together [and] sintered" therewith. Col. 8, lines 15-23. Considering the conductive ceramic 20 to be the "chuck electrode" in the present claims, already it is distinguishable because the "dielectric film 2," comparable to the "carrier" in the claims, is "integrally joined together [and] sintered" therewith." Conversely, in the claims the carrier is clamped into the frame, which is positionable adjacent the chuck electrode. In other words, in the claims the chuck electrode is not "formed integrally" with the frame, the carrier or the substrate. Instead, the chuck electrode is quite separable from all three of those elements, so the latter can be removably transported into and out of the processing station without damaging the substrate. As already explained in Amendment "E," yet another distinction is that the substrate 1' in Fig. 19 of Tokisue is itself energized to form the capacitor circuit to retain it in place. This is different from the claims, where the carrier (or conductive layer thereof) serves this function. In the claims, if the substrate itself were relied upon to complete the capacitive circuit as in Tokisue, then the substrate would be under substantial additional stresses because then it would be required to retain the frame and carrier in place. This is not the construction of the present claims, which are clearly distinguishable from Tokisue's Fig. 19, where the "carrier" (*cf.* chuck electrode) is sintered to the conductive ceramic 20 causing them to be permanently affixed, and the substrate itself forms the capacitive circuit to electrostatically hold itself in place.

Fig. 20 is no different from Fig. 19 in regard to its distinguishing characteristics from the present claims. Like in Fig. 19, a conductive ceramic 20 is comparable to the "chuck electrode." The Examiner argues that in Fig. 20, the

> carrier is further configured (by adding a dielectric layer 71) to be removably positioned adjacent a surface of a chuck electrode (Fig 20 16) so that said carrier and said chuck electrode together form an electrostatic chuck device

> wherein the conductive layer of said carrier (20) and surface of said chuck electrode (16) form two plates of a plate-type capacitor....

Office action, p. 2.

Respectfully, the Examiner's characterization of Fig. 20 is incorrect. Here, the Examiner characterizes element 20 as the carrier; in fact, this would be the chuck electrode, not the carrier. The capacitive circuit is completed between layer 1' (the substrate) and the conductive ceramic 20 (electrode) in Fig. 20, exactly analogous to Tokisue's Fig. 19. The only difference is the incorporation of another dielectric layer 71 at the base of the conductive ceramic 20, to insulate it from a grounded bed 16. The Examiner has attempted to characterize the grounded bed 16 as the chuck electrode in the claims. However, this is not correct. That bed is never energized in a capacitive circuit with the substrate 1', and is not responsible for producing the attractive force between the conductive ceramic 20 and the substrate 1'. Moreover, even taking element 20 in Fig. 20 to be the "carrier" as claimed, this does not explain how the "carrier" (or portion thereof) forms a capacitive circuit with the "chuck electrode" (which the Examiner has compared to the grounded bed 16). As clearly seen in Fig. 20 and explained in the specification, it is *the substrate itself* that is capacitively coupled and attracted to the conductive ceramic 20; nothing is attracted to the grounded bed 16 at all. Please *see* col. 8, lines 15-42, which clearly explain that *in both Figs. 19 and 20*, the "electrically conductive ceramics 20 serve[] as the electrode," and that the entire construction can be "mounted on a bed 16 which is grounded" in cases where it is desired to mount the device, presumably through bed 16, on a pallet. Finally, the Examiner is incorrect to suggest that the "carrier" (which he likens to conductive ceramic in Fig. 20) "removably positioned adjacent a surface of a chuck electrode (which the Examiner says is element 16) "by adding a dielectric layer 71." There is no teaching or suggestion in Tokisue that layers 16 and 20 are separable at all.

For these reasons, as well as those outlined in detail in Response "E" previously filed, it is respectfully submitted that Tokisue, and particularly Figs. 19 and 20 thereof, do not disclose the features of the present claims, where the substrate is secured to the carrier, the carrier is mechanically clamped in a frame, and the frame is removable from a processing station having a fixed chuck electrode, wherein the frame assembly (including the clamped-in carrier and secured substrate) is removable from the processing station and can be temporarily secured therein by applying a voltage between the carrier (or conductive layer thereof) and the chuck electrode.

New dependent claim 35 has been added herein to expressly claim the latter functionality, which clearly is not present in Tokisue.

For the foregoing reasons, it is respectfully submitted that independent claims 1, 11, 15 and 20 are in condition for allowance. In addition, at least dependent claims 16, 31-33, 34 and 35 are respectfully submitted to be independently allowable, because all these claims recite additional features that are nowhere to be found in the cited references.

If there are any fees required by this communication, please charge any such fees to our Deposit Account 16-0820, Order No. KELR-38477.

Respectfully submitted,

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Date: January 29, 2009